

EXCERPTS OF OIG REPORTS PERTAINING TO FMVSS AND BUS INSPECTIONS  
PROVIDED AS EXHIBITS FOR NTSB HEARING  
October 7-8, 2008

**OIG report MH-2005-032, “Follow-Up Audit of the Implementation of NAFTA’s Cross-Border Trucking Provisions,” January 3, 2005. (Excerpts pages 1-4)**

**FMVSS**

**Page 8/10:**

**Additional Areas Needing Attention.** We identified five additional areas that do not pose Section 350 compliance problems, but which should be dealt with to prevent future problems should long-haul authority be granted to Mexican motor carriers.

**Vehicle Safety Standards.** Finally, although not a specific requirement of Section 350, FMCSA has proposed a rule to ensure that all motor carriers operating in the United States, including Mexican carriers, use only commercial vehicles that were certified by the manufacturer as meeting all applicable Federal safety requirements. When proposing the rule in 2002, FMCSA stated that the action was needed to ensure effective enforcement against commercial vehicles that may not meet all of the applicable safety standards. Comments on the proposed rule showed opposition to a 24-month phase-in period that would apply to Mexican vehicles previously allowed to operate in the United States. Congress also acted in the FY 2005 Omnibus Appropriations Act to prohibit the use of funds to issue or implement any regulation related to a phase-in period. Resolution of this issue will be important if increasing numbers of Mexican motor carriers are operating in the United States. As of November 29, 2004, the rule was under review in the Office of Management and Budget.

**Page 28:**

**Certification of Compliance with Federal Motor Vehicle Safety Standards.** FMCSA and the National Highway Traffic Safety Administration (NHTSA) have complementary responsibilities related to vehicle safety. FMCSA has authority to set safety requirements for motor carriers operating in interstate commerce. FMCSA’s authority does not extend to setting standards for manufacturers of commercial motor vehicles to ensure that they contain necessary safety features. Such standards, known as Federal Motor Vehicle Safety Standards (FMVSS), are established by NHTSA under the National Traffic and Motor Vehicle Safety Act of 1966. Based on an interpretation letter issued by NHTSA in 1975, Canadian and Mexican motor carriers are responsible for complying with the FMVSS before operating commercial motor vehicles in the United States.

**BUSES**

**Page 5:**

**Bus Coverage.** Commercial vehicles, by definition, include trucks and buses. Section 350 provides no specific guidance distinguishing commercial buses from commercial trucks although buses operate differently from commercial trucks at the border. Trucks are restricted to designated commercial crossings at specific times. Buses can use commercial truck crossings, but are permitted to enter the United States at separate border crossings designated for buses.

Our work and FMCSA’s own reports show that, while buses are currently inspected at commercial truck crossings, sufficient staff is not available at some designated bus crossings to meet Section 350 requirements for verifying the driver’s commercial license and inspecting vehicles that have expired Commercial Vehicle Safety Alliance (CVSA)<sup>6</sup> decals.

- At 4 crossings reviewed, buses crossing the border were not inspected and at 10 other crossings inspection coverage was sporadic. For example, at Nogales, Arizona, after 10:00 p.m., buses are permitted to use a border crossing away from the commercial crossing that is not staffed by FMCSA or state inspection personnel.
- FMCSA reports, provided to us in response to our May 2003 audit, stated that at 15 bus crossings at the southern border FMCSA did not have adequate facilities or personnel to meet Section 350 requirements for commercial vehicles.

Although the number of future long-haul bus applicants is unknown, as of September 2004, FMCSA had applications from 6 bus companies out of 678 applications for long-haul authority. Our May 2003 report noted that 238 motor carriers, including 5 bus companies, had applied for long-haul operating authority.

<sup>6</sup> CVSA is an organization of Federal, state, and provincial government agencies and representatives from private industry in the United States, Canada, and Mexico dedicated to improving commercial vehicle safety.

EXCERPTS OF OIG REPORTS PERTAINING TO FMVSS AND BUS INSPECTIONS  
PROVIDED AS EXHIBITS FOR NTSB HEARING  
October 7-8, 2008

**FMVSS**

**Page 28 (continued):**

In March 2002, FMCSA proposed a rule to require carriers operating commercial motor vehicles in the United States to display a label that the vehicle was certified by the manufacturer as meeting all applicable Federal safety requirements. FMCSA noted that without the rule, uncertified commercial vehicles that did not meet all of the applicable safety standards may not be identified and subjected to effective enforcement action. As of November 29, 2004, the rule was under review by the Office of Management and Budget.

The proposed rule granted an exception for Canadian and Mexican motor carriers, which allows vehicles legally operating in the United States when the rule goes into effect to operate without meeting the certification requirement for 24 months. Commenters on the proposed FMCSA rule have argued that the exception violates the U.S. law on certification and that vehicles that are not certified as meeting U.S. production safety standards should not be permitted to enter the country. FMCSA's position is that the 24-month phase in period would be needed to allow motor carriers sufficient time to comply. FMCSA has also noted that even without the new rule all commercial motor vehicles operating in interstate commerce must comply with the requirements of the Federal Motor Carrier Safety regulations, including those that cross-reference the FMVSS. However, the proposed rule, if

**Page 29:**

adopted, would allow officials to cite Mexican motor carriers operating in the United States for failing to display documentation showing compliance with the FMVSS. While compliance with the FMVSS is not specifically cited in Section 350, it is important for the final rule to be issued if increasing numbers of Mexican commercial vehicles will be operating in the United States. The Conference Agreement to the FY 2005 Omnibus Appropriations Act included language prohibiting the use of funds to issue or implement a rule with the phase-in period.

**BUSES**

**Page 6:**

FMCSA officials told us a plan has been developed to enhance bus inspections and FMCSA will work with passenger bus companies granted long-haul authority to see that Section 350 requirements are met. However, FMCSA needs to provide an aggressive timeline for developing and implementing the policy directives designed to ensure that bus inspections and driver checks are properly handled for buses.

Current methods used for bus inspections, such as inspecting a bus when it reaches its destination, could be applied to buses granted long-haul authority. We recognize that such alternative methods may be appropriate given issues such as the handling of passengers during inspections. However, current FMCSA policies do not detail specific alternative procedures to be used for long-haul bus traffic at the border. Before granting long-haul authority to buses, FMCSA should revise its policies and implement procedures for inspecting long-haul buses across all four southern border states. Staffing and facility plans should also be revised, as necessary, to respond to the issues raised by FMCSA staff and our observations.

**Page 11/12:**

For recommendation 2, regarding the remaining gaps in meeting Section 350 requirements, FMCSA agreed to:

- Work with bus carriers granted operating authority and with the Bureau of Customs and Border Protection to ensure Section 350 requirements are met. The approved plans and procedures will be in place no later than the end of FY 2005.

These actions are responsive to recommendation 2. Accomplishment of planned actions will be especially important if the issues being discussed with Mexico are resolved quickly, and if an increasing number of Mexican motor carriers are operating in the United States. The implementation of revised policies and procedures for buses is needed to ensure appropriate driver checks and vehicle inspections are performed for passenger carriers granted long-haul authority.

**Page 21:**

**Bus Operations.** Commercial vehicles, by definition, include both trucks and buses, but buses are permitted to enter the United States at separate border crossings and at times when commercial trucks are restricted. Under current conditions, while buses are inspected at commercial truck crossings, Mexican bus companies granted long-haul authority could cross the border at locations and times where insufficient personnel and facilities are in place to verify commercial driver's licenses and inspect vehicles with expired CVSA decals—two key Section 350 requirements. Specifically:

EXCERPTS OF OIG REPORTS PERTAINING TO FMVSS AND BUS INSPECTIONS  
PROVIDED AS EXHIBITS FOR NTSB HEARING  
October 7-8, 2008

**BUSES**

**Page 21 (continued):**

- Internal reports prepared by FMCSA, in response to our May 2003 audit, stated that at 15 bus crossings at the southern border, FMCSA did not have adequate facilities or personnel to meet Section 350 requirements.
- During our visits to 17 of 31 border crossings identified by FMCSA, we observed 3 crossings, collocated with truck crossings, where buses could be subjected to inspections during all hours of operation, 4 crossings where bus traffic crossed but no bus inspections occurred, 5 crossings where inspectors were present an average of 2 days a week to conduct bus inspections, and 5 crossings where inspections were reportedly conducted during special operations occurring a couple of times a year.

The number of long-haul bus applicants is a small proportion of the total long-haul applicants and long-haul bus traffic represents a small proportion of current bus traffic at the border. As of September 2004, FMCSA had received applications from 6 bus companies seeking long-haul authority to operate a total of 21 motor coaches. This represents approximately 1 percent of the applicants for long-haul authority, as of September 2004.

The leasing of Mexican buses to U.S. carriers for operation in the United States and beyond the commercial zone is permitted at this time, and the degree to which buses operating in the United States under these conditions will elect to apply for long-haul authority is unknown. Based on reports from FMCSA, approximately 302,000 bus entries a year occur at 31 southern bus crossings. According to FMCSA officials, these primarily represent short-distance, transit-type crossings within the commercial zone, and they are not related to Section 350 compliance.

FMCSA officials informed us of other arrangements used within the border states to perform bus inspections. These alternatives included a voluntary compliance program established for Mexican bus companies to submit to inspections at selected sites, such as amusement parks, casinos, and a zoo. Officials informed us that this was more efficient because in most instances there were no passengers to unload.

EXCERPTS OF OIG REPORTS PERTAINING TO FMVSS AND BUS INSPECTIONS  
PROVIDED AS EXHIBITS FOR NTSB HEARING  
October 7-8, 2008

**BUSES**

**Page 22:**

Given issues such as the handling of passengers during inspections, we recognize that alternative methods for addressing Section 350 requirements for buses may be appropriate. Section 350 itself makes no specific mention of bus inspection procedures. However, before granting long-haul authority to buses, FMCSA should revise its policies to include procedures for inspecting long-haul buses across all four southern border states. Staffing and facility plans should also be revised, as necessary, to respond to the issues raised by FMCSA staff and our observations. In responding to the draft report, FMCSA stated that it will work closely with bus carriers granted long-haul authority to ensure compliance with safety regulations and the mandates of Section 350. FMCSA also reported that it is developing policy directives to ensure that bus inspections and driver checks are properly handled. According to FMCSA, approved plans and procedures will be in place by September 30, 2005.

EXCERPTS OF OIG REPORTS PERTAINING TO FMVSS AND BUS INSPECTIONS  
PROVIDED AS EXHIBITS FOR NTSB HEARING  
October 7-8, 2008

**OIG report MH-2007-062, “Follow-Up Audit On The Implementation Of NAFTA’s Cross-Border Trucking Provisions,” August 6, 2007. (Excerpts pages 5-7)**

**FMVSS**

**Page 2:**

Additionally, FMCSA and the Department should continue to address two areas noted in our January 2005 report that are outside the Section 350 criteria.

- **Fully implementing FMCSA’s policy on ensuring Mexican carrier compliance with Federal motor vehicle manufacturing safety standards:** One mechanism Federal inspectors could use to ensure that Mexican vehicles have complied with manufacturing safety standards is to check a vehicle’s identification number to identify the year of manufacture. However, FMCSA has not issued additional guidance that would make it mandatory for inspectors to check the vehicle number and record it in inspection records.

**Page 8:**

**FMCSA needs to implement its policy on Mexican carrier compliance with motor vehicle manufacturing safety standards.** Our January 2005 report urged FMCSA to resolve issues related to a March 2002 rule it proposed requiring Mexican motor carriers operating commercial vehicles in the United States to display a label from the manufacturer asserting that the vehicle met all applicable National Highway Transportation Safety Administration vehicle manufacturing safety standards when it was built. In August 2005, FMCSA withdrew the proposed rulemaking after determining that it could effectively ensure Mexican motor carriers’ compliance with these standards while operating in the United States by enforcing established motor carrier safety regulations and policies.

When FMCSA withdrew the rulemaking, it issued an internal policy to its staff requiring Mexico-domiciled carriers applying to operate in the United States to certify that their vehicles were built or retrofitted in compliance with applicable manufacturing safety standards. According to the internal policy, the certification confirmation will occur during the pre-authority safety audit and subsequent inspections. Additionally, under the policy, if FMCSA or state inspectors determine through vehicle inspections or during a pre-authority safety audit that Mexican motor carriers are operating vehicles that do not comply with the safety standards, they could deny, suspend, or revoke a carrier’s operating authority or certificate of registration or issue penalties for falsification of records.

**BUSES**

**Page 2:**

Despite the progress FMCSA has made, additional improvements are needed in two of the eight Section 350 (c)(1) criteria.

- **Ensuring adequate capacity to inspect Mexican buses:** Although FMCSA, in response to our 2005 audit, implemented the Southern Border Commercial Bus Inspection Plan that identified inspection issues and strategies for addressing those issues for specific bus border crossings, other important issues have surfaced. For example, at one high-volume crossing, physical space and capacity limitations prevented inspections during high-volume holiday periods. This means that Mexican buses granted long-haul operating authority in the United States may not be inspected during busy periods.

**Page 6:**

**FMCSA took positive action to improve bus inspection coverage, but additional issues should be addressed.** The FY 2002 Act criteria<sup>14</sup> called for the OIG to verify whether FMCSA has adequate capacity at crossings to conduct a sufficient number of meaningful vehicle safety inspections. These criteria apply to buses as well as trucks. The FY 2002 Act does not distinguish commercial buses from commercial trucks, although buses operate differently from commercial trucks at the border. Buses are permitted to enter the United States at separate bus crossings and at times when commercial trucks are restricted. While our January 2005 report did not identify issues specific to truck or bus inspections conducted at commercial crossings, we found that the number of staff at some designated bus crossings was insufficient to meet the Act’s criteria for verifying the bus driver’s commercial license and inspecting vehicles.

Our January 2005 report recommended that FMCSA revise policies, procedures, staffing, and facility plans to make Mexican bus coverage consistent with FMCSA policy on vehicle and driver inspections for commercial vehicles that are granted long-haul authority.<sup>15</sup> In response to our report, FMCSA worked with the U.S. Customs and Border Protection to identify mutually acceptable procedures and

**EXCERPTS OF OIG REPORTS PERTAINING TO FMVSS AND BUS INSPECTIONS  
PROVIDED AS EXHIBITS FOR NTSB HEARING  
October 7-8, 2008**

**FMVSS**

**Page 8 (continued)/Page 9:**

Our current work did not assess FMCSA's rationale for withdrawing the rulemaking, but we identified a problem hindering the full implementation of the August 2005 internal policy. The policy provided instructions to FMCSA inspection staff on how to determine whether a vehicle complies with applicable manufacturing standards. For example, according to the instructions, for any vehicle that does not carry a label certifying compliance with these standards, an inspector can check the vehicle identification number (which identifies the model year). FMCSA has determined that most vehicles produced in Mexico beginning in model year 1996 have met applicable manufacturing standards. However, the policy stated that guidance will be forthcoming before the August 2005 policy can be implemented. To date, no additional guidance has been provided.

As a result, the August 2005 policy addresses procedures for recording vehicle identification numbers, but does not require inspectors to record this information. Our analysis of FMCSA's FY 2005 Mexican motor carrier inspection records database showed that additional guidance may be needed. Data show that inspectors are entering Mexican motor carriers' vehicle identification numbers in the inspection database only 37 percent of the time. For the remaining 63 percent, the optional vehicle identification number database field included non-related or incomplete data or no data at all.

In January 2007, FMCSA reported to us that it was making software modifications to prompt a vehicle identification number check when inspectors record roadside inspection data. FMCSA is also reassessing whether future guidance is necessary. Prompt resolution of questions about whether more guidance is needed to ensure compliance with motor vehicle manufacturing safety standards through this method will help ensure that inspectors can identify vehicles not meeting the requirements established for Mexico-domiciled carriers.

**Page 12**

**RECOMMENDATIONS**

We recommend that the FMCSA Administrator:

3. Address our findings on issues that are not related to Section 350 by:
  - a. Implementing a policy on the use of vehicle model year to indicate compliance with vehicle safety standards and record vehicle identification numbers as part of a safety inspection.

**BUSES**

**Page 6 (continued)/Page 7:**

issued the Southern Border Commercial Bus Inspection Plan. The Inspection Plans identified the ports of entry in each southern border state along with a description of their respective bus inspection issues and the planned strategies for addressing those issues.

<sup>13</sup> OIG Report Number MH-2002-94, Implementation of Commercial Vehicle Safety Requirements at the U.S.-Mexico Border, June 25, 2002.

<sup>14</sup> Section 350 (c)(1)(F).

<sup>15</sup> Approximately 250,000 buses crossed the southern border in FY 2005. Mexican bus inspections include inspections of Mexican motor coaches, buses, and school buses. In FY 2006, FMCSA reported 19,166 bus inspections performed in the four southern border states. This was a further decrease from the 27,262 bus inspections reported in FY 2005 and the 29,124 reported in FY 2004.

As part of our present audit, we observed a bus crossing in Laredo, Texas, that services an average of 3,000 bus crossings monthly (see figure 3). At this crossing, we identified physical space and capacity limitations that prevented FMCSA and the state motor carrier inspectors from conducting bus inspections during high-volume holiday periods. This concern needs to be addressed to ensure that Mexican bus carriers granted long-haul authority are not able to avoid vehicle or license inspections during busy periods at this crossing. However, this important issue was not identified in FMCSA's Southern Border Commercial Bus Inspection Plan, which covers this crossing. Additionally, when we surveyed selected inspectors at border crossings, other bus inspection items were brought to our attention, such as lack of a ramp on which to conduct inspections. FMCSA should routinely confirm the effectiveness of its inspection plan, either by periodically surveying its inspectors or pursuing other means, to identify site-specific issues to improve bus inspections.

*Figure 3. FMCSA Bus Inspection at Laredo, Texas,  
September 2006*



Source: OIG

EXCERPTS OF OIG REPORTS PERTAINING TO FMVSS AND BUS INSPECTIONS  
PROVIDED AS EXHIBITS FOR NTSB HEARING  
October 7-8, 2008

**FMVSS**

**Page 13**

**Recommendation 3.a:** In response to our recommendation to implement a policy on the use of vehicle model year to indicate compliance with vehicle safety manufacturing standards, FMCSA stated that it is revising system software so that an automatic reminder appears during inspection and prompts inspectors to enter the vehicle identification number for all long-haul, Mexico-domiciled motor carriers. FMCSA is also issuing a policy requiring inspectors to complete the vehicle identification number field for all long-haul Mexico-domiciled carriers. This action is scheduled to be completed by October 1, 2007.

**OIG Response:** We consider FMCSA's comments to be responsive.

**BUSES**

**Page 12**

**RECOMMENDATIONS**

We recommend that the FMCSA Administrator:

2. Ensure that adequate space is available to conduct bus inspections by working on a site-specific basis with the U.S. Customs and Border Protection to modify the Southern Border Commercial Bus Inspection Plan with respect to:
  - a. Providing adequate inspector coverage at the Lincoln-Juarez crossing in Laredo, Texas, during holidays or other periods of peak bus traffic.
  - b. Periodically determining the effectiveness of the bus inspection plan by surveying field personnel or through other methods.

**Page 13/14**

**Recommendation 2.a:** In response to the recommendation to ensure that adequate space is available to conduct inspections, FMCSA stated that it will modify the Texas Commercial Bus Inspection Plan, working with the Texas Department of Public Safety and U.S. Customs and Border Protection to ensure adequate coverage at the Lincoln-Juarez crossing at Laredo, Texas, during periods of peak bus traffic. This is planned to be completed by December 31, 2007.

**OIG Response:** We consider FMCSA's comments to be responsive.

**Recommendation 2.b:** In response to the recommendation to work on site-specific basis with the U.S. Customs and Border Protection to determine the effectiveness of the bus inspection plan, FMCSA stated that it will review the effectiveness of the bus inspection plan. It also stated that it has provided funding to the Texas Transportation Institute, Texas A&M University, to review bus activities and operations at the southern border crossings. FMCSA anticipates completing this action by April 1, 2008.



EXCERPTS OF OIG REPORTS PERTAINING TO FMVSS AND BUS INSPECTIONS  
PROVIDED AS EXHIBITS FOR NTSB HEARING  
October 7-8, 2008

**OIG report MH-2008-081, “Report On The Scope And Methodology Of FMCSA’s Review Of Canadian/Mexican Compliance With Federal Commercial Motor Vehicle Safety Standards,” September 24, 2008. (Excerpts pages 8-10)**

**Report Results**

**Page 2/3:**

While FMCSA’s report provided evidence that most vehicles TTI sampled on behalf of FMCSA complied with FMVSS, the estimates it subsequently formulated based on the TTI sample were not statistically valid because of how the sample was selected and projected. For example:

- Neither the border crossings nor the vehicles sampled were chosen at random; and therefore, the results are biased. In our opinion, random sampling was needed to ensure crossings and vehicles had a known chance of being selected, a prerequisite needed to use probability based formulas to make statistical projections. TTI agreed that the sample was potentially compromised, but opined that it did not impact the sample results.
- Even if the sample results were not compromised, TTI used the wrong probability formulas to make statistical estimates. In our opinion, based on the multi-stage sample design used, a more complex statistical formula is required—one that appropriately weighs sample results and sampling errors at each sample stage. TTI did not agree and opined that the formulas it used were appropriate for the sample designed.

Additionally, the quantitative impacts of TTI’s key assumptions are not clearly presented for report users to effectively evaluate the estimates made. For example, TTI disclosed that it assumed trucks sampled without a FMVSS or Canadian Motor Vehicle Safety Standards (CMVSS) certification label affixed were

<sup>3</sup> TTI examined 1,573 Mexican-owned trucks and tractors (herein referred to as trucks), 1,334 trailers, and 387 buses.

<sup>4</sup> Confidence level is the probability that an interval estimate will include the population parameter. Higher probability means more confidence.

compliant if manufactured in Mexico on or after calendar year (CY) 1996. This assumption was based on FMCSA’s analysis of Mexican manufacturing practices, which concluded that “most” model year 1996 and later Mexican-manufactured commercial motor vehicles “may” meet FMVSS. The report did not clearly show the degree to which this date influenced the estimates made.<sup>5</sup>

**Use of VINS To Determine FMVSS Compliance**

**Page 5:**

TTI examined a sample of 1,573<sup>10</sup> Mexican-owned trucks (tractors), 1,334 trailers, and 387 buses at the U.S.-Mexico border heading to commercial zones to determine whether each vehicle had a FMVSS or CMVSS certification label affixed to it.<sup>11</sup> If a label was not present, TTI used the vehicle identification number (VIN) to provide evidence of a vehicle’s date and location of manufacture,<sup>12</sup> and counted the vehicle as FMVSS compliant if it met the pre-determined country manufacturing dates presented in the table that follows.

**Table: FMVSS Compliant Country Manufacture Dates**

Country of Manufacture	Mexican-Owned Commercial Trucks and Trailers*	Mexican-Owned Commercial Buses*
United States	1981	1981
Canada	1991	1971
Mexico**	1996	None assumed to comply

Source: TTI  
\* Assumed to be FMVSS compliant if manufactured on or after the calendar year cited.  
\*\* The dates were applied to Mexico manufactured and non-U.S. and non-Canada manufactured vehicles, which included trucks manufactured in Japan; trailers manufactured in the United Kingdom and Taiwan; and buses manufactured in Germany, Sweden, and Finland.

If TTI could not determine FMVSS compliance for any vehicle through the vehicle’s VIN or by other means, it categorized it as “missing data” and counted it as non-compliant with FMVSS. Of the 160 Mexican-owned trucks and

<sup>10</sup> TTI actually examined 1,574 trucks at the southern border, but only used the results of 1,573 trucks. According to FMCSA, TTI excluded one truck to prevent bias in the sample results.

<sup>11</sup> According to TTI, Mexico does not have a certification label requirement similar to that of the United States. Therefore, no label would be present even if the vehicle was built in the same plant with the same design specifications as an FMVSS compliant vehicle for sale in the United States.

<sup>12</sup> Standard VINs comprised of 17 alphanumeric characters with the first character representing the country of manufacture.



**EXCERPTS OF OIG REPORTS PERTAINING TO FMVSS AND BUS INSPECTIONS  
PROVIDED AS EXHIBITS FOR NTSB HEARING  
October 7-8, 2008**

**Report Results**

**Page 3:**

To provide report users with more meaningful results in any subsequent FMVSS compliance reviews, the Department should ensure that valid statistical methods are used and the quantitative impact of key assumptions are disclosed. To accomplish this, members of FMCSA's staff with expertise in statistics should review the methods and data used. According to FMCSA personnel, this was not done for this study; consequently, they relied on TTI to design and implement the study.

While expert reviews are not required, Department guidelines<sup>6</sup> recommend this practice for studies or other factual information products presented to Congress. This practice is also recommended in the Office of Management and Budget (OMB) September 2006 Standards and Guidelines for Statistical Surveys issued shortly before FMCSA provided the TTI report to Congress. The guidelines state that one best practice is to have a reviewer with appropriate expertise in the methodology consider whether appropriate statistical methods are used. Additionally, the guidelines state that an agency should ensure that data limitations and results are presented in a manner that makes the data useful.

According to FMCSA, the concerns raised about sampling methods may be valid and the estimates derived by TTI may be biased by both sampling and non-sampling errors, but FMCSA does not expect that the reported TTI findings are significantly affected by them. We are making two recommendations that focus on actions FMCSA needs to take to ensure that any future FMVSS compliance reviews include appropriate FMCSA review and that results are clearly presented. Our full recommendations are listed on page 10.

**Use of VINS To Determine FMVSS Compliance**

**Page 6:**

233 trailers TTI counted as non-compliant with FMVSS, 149 trucks and 231 trailers were attributed to missing data. According to TTI, most "missing data" vehicles were attributed to non-standard VINs. For example, TTI officials reported that at small border crossings some VINs consisted of from seven to nine characters or had characters with no readily apparent relation to standard U.S. VIN coding.

TTI then computed statistical projections (estimates) by applying probability formulas to the data obtained in its sample and Mexican-owned vehicle data obtained from United States and Mexico transportation agencies and from the Internet. For example, TTI estimated that 89.8 percent of all Mexican-owned commercial trucks, 82.5 percent of trailers, and 97.9 percent of buses crossing into the United States comply with FMVSS. TTI believes its methods provided valid statistical estimates at the 95-percent confidence level.

**Page 8/9:**

For example, to determine whether a sample vehicle without an appropriate FMVSS or CMVSS certification label complied with FMVSS, TTI made assumptions about FMVSS compliance that if found to be incorrect, may impact its estimates.<sup>14</sup> Specifically, TTI did not clearly disclose that a straight average of approximately 15 percent of the trucks it sampled were counted as either compliant or not compliant with FMVSS based on the location and date manufactured (Mexico on or after CY 1996). However, the CY 1996 date TTI used to justify Mexican truck compliance with FMVSS was based on an FMCSA analysis of Mexican manufacturing practices that concluded "...most model year 1996 and later CMVs [commercial motor vehicles] manufactured in Mexico may meet the FMVSSs."<sup>15</sup> The source FMCSA used in support of this conclusion included examples where Mexican manufactured vehicles could not have complied with FMVSS until after CY 1996. For instance, Mexico did not adopt FMVSS antilock brake system requirements until March 1, 1997.

Consequently, the percentage estimates of trucks compliant with FMVSS could change if better information were available regarding compliance dates used. Knowledge of the impact TTI's assumptions had on the estimates made could be important to report users. The following are other examples that have the potential to influence the estimates TTI made, but were not clearly presented in the report.

EXCERPTS OF OIG REPORTS PERTAINING TO FMVSS AND BUS INSPECTIONS  
PROVIDED AS EXHIBITS FOR NTSB HEARING  
October 7-8, 2008

**Use of VINS To Determine FMVSS Compliance**

**Page 9:**

- TTI assumed that 149 (a straight average of over 9 percent) of the 1,573 trucks sampled that did not have FMVSS or CMVSS certification labels were non-compliant if a non-standard or incomplete VIN was recorded on the data collection sheet or other information was not available that would identify date and location of manufacture. Neither the number nor percent of non-standard VIN or any other conditions were clearly presented in the report.
- According to TTI, 8 (a straight average of 2 percent) of the 387 buses observed were categorized as Mexican-manufactured and assumed non-compliant. TTI assumed that any bus it examined that did not have a manufacture FMVSS or CMVSS certification label affixed were Mexican-manufactured buses and therefore, were non-compliant because little information was available to determine compliance. The percent of buses assumed not to be compliant was not clearly presented.

In response to our observations regarding its assumptions, TTI stated that its assumptions were disclosed in the report and were based on the best information available. It also stated that the assumptions had a minor affect on the estimates and additional work would be required outside the scope established for its review to provide additional verification. As for missing data, TTI stated that the missing data assumption was attributed to the fact that a large number of sampled vehicles did not have a standard VIN.